A. AMENDMENTS TO CLAIMS

Please cancel Claims 18 and 28, add new Claims 44-49, and amend the claims as indicated hereinafter.

1 - 9. (CANCELED)

10. (CURRENTLY AMENDED) A method for communicating at least first and second digital data streams over a communications link from a source to a destination comprising:

receiving said first data stream, said first data stream being a synchronous data stream having a first average data bit rate;

clocking said first data stream into a first FIFO buffer;

receiving said second data stream, said second data stream being an asynchronous data stream having a second average data bit rate;

clocking said second data stream into a second FIFO buffer;

transmitting, over said communications link, an output bit stream, at an output data bit rate,

wherein the output bit stream includes bits output from the first data rate buffer and the output bit stream also includes bits from the second data rate buffer, and

wherein each J^{th} bit of a sequential plurality of bits in the first data stream are bits sequentially output from the first FIFO buffer, to define first bits of the output bit stream, and wherein at least one bit of the sequential plurality of bits, other than the first bits, is output from the second FIFO buffer, wherein the sequential

plurality of time periods includes at least first and second subpluralities of time periods.

11. (CANCELED)

12. (ORIGINAL) A method as claimed in claim 10 wherein said output bit stream includes time division multiplexing of at least said first data stream and second data stream.

13 - 19. (CANCELED)

20. (CURRENTLY AMENDED) Apparatus for communicating at least first and second digital data streams over a communications link from a source to a destination, said first data stream being a synchronous data stream having a first average data bit rate, said second data stream being an asynchronous data stream having a second average data bit rate, comprising:

means for clocking said first data stream into a first FIFO buffer;

means for clocking said second data stream into a second FIFO buffer;

means for transmitting, over said communication link, an output bit stream, at an output data bit rate,

wherein the output bit stream includes bits output from the first data rate buffer and the output bit stream also includes bits from the second data rate buffer, and

wherein each J^{th} bit of a sequential plurality of bits in said first data stream are bits sequentially output from the first FIFO buffer, to define first bits of said output bit stream, and wherein at least one bit of said sequential plurality of bits, other than said first bits, is output from the second FIFO buffer.

21. (CANCELED)

22. (ORIGINAL) Apparatus as claimed in claim 20 wherein said output bit stream is provided by time division multiplexing of at least said first data stream and second data stream.

23 - 29. (CANCELED)

30. (CURRENTLY AMENDED) A computer-readable medium for communicating at least first and second digital data streams over a communications link from a source to a destination, the computer-readable medium carrying one or more sequences of instructions which, when executed by one or more processors, cause the one or more processors to perform the steps of:

receiving the first data stream, the first data stream being a synchronous data stream having a first average data bit rate;

clocking the first data stream into a first FIFO buffer;

receiving the second data stream, the second data stream being an asynchronous data stream having a second average data bit rate;

clocking the second data stream into a second FIFO buffer;

transmitting, over the communications link, an output bit stream, at an output data bit rate,

<u>wherein the output bit stream includes bits output from the first data rate buffer and the output bit stream also includes bits from the second data rate buffer, and</u>

wherein each J^{th} bit of a sequential plurality of bits in the first data stream are bits sequentially output from the first FIFO buffer, to define first bits of the output bit

stream, and wherein at least one bit of the sequential plurality of bits, other than the first bits, is output from the second FIFO buffer, wherein the sequential plurality of time periods includes at least first and second subpluralities of time periods.

31. (PREVIOUSLY PRESENTED) A computer-readable medium as recited in Claim 30, further comprising one or more additional instructions which, when executed by the one or more processors, cause the one or more processors to cause the output bit stream to include time division multiplexing of at least the first data stream and the second data stream.

32. (CURRENTLY AMENDED) A method for communicating at least first and second digital data streams over a communications link from a source to a destination comprising:

receiving the first data stream, the first data stream being a synchronous data stream having a first average data bit rate;

clocking the first data stream into a first data rate buffer;

receiving the second data stream, the second data stream being an asynchronous data stream having a second average data bit rate;

clocking the second data stream into a second data rate buffer;

wherein the first and second data rate buffers define a next out data bit for outputting in response to a clock-out signal; and

transmitting, over the communication link, an output bit stream, at an output data bit rate, wherein the output bit stream includes bits output from the first data rate buffer and the output bit stream also includes bits from the second data rate buffer,

wherein the output bit stream includes at least a sequential plurality of time periods for transmitting a data bit during each of the sequential plurality of time periods, and wherein the transmitting includes

a) outputting the next out data bit from the first data rate buffer and transmitting the next out data bit on the communications link during one of a first subplurality of the sequential plurality of time periods;

b) following step a, transmitting a bit, during one of a second subplurality of the sequential plurality of time periods; and

repeating steps a and b to define a plurality of iterations of step a and step b wherein at least some of the bits transmitted during iterations of step b are output from the second data rate buffer.

33. (PREVIOUSLY PRESENTED) A method as recited in claim 32, wherein the output bit stream includes time division multiplexing of at least the first data stream and second data stream.

34. (PREVIOUSLY PRESENTED) A method as recited in Claim 32, wherein all bits transmitted during iterations of step b are output from the second data rate buffer.

35. (PREVIOUSLY PRESENTED) A method as recited in Claim 32, wherein the first subplurality of the sequential plurality of time periods comprises every other time period of the sequential plurality of time periods.

36. (CURRENTLY AMENDED) An apparatus for communicating at least first and second digital data streams over a communications link from a source to a destination, the first data stream being a synchronous data stream having a first average data bit rate, the

second data stream being an asynchronous data stream having a second average data bit rate, comprising:

means for clocking the first data stream into a first ~~FIFO~~ data rate buffer;

means for clocking the second data stream into a second ~~FIFO~~ data rate buffer;

wherein the first and second data rate buffers define a next out data bit for outputting in response to a clock-out signal; and

means for transmitting, over the communication link, an output bit stream, at an output data bit rate,

wherein the output bit stream includes bits output from the first data rate buffer and the output bit stream also includes bits from the second data rate buffer,

wherein the output bit stream includes at least a sequential plurality of time periods for transmitting a data bit during each of the sequential plurality of time periods,

and wherein the means for transmitting ~~comprises:~~ is configured to:

a) ~~means for outputting~~ output the next out bit from the first ~~FIFO to~~ data rate buffer and transmit the next out data bit on the communications link during one of a first subplurality of time periods of the sequential plurality of time periods;

b) ~~means for transmitting~~ following step a, transmit a bit, during one of a second subplurality of time periods of the sequential plurality of time periods;

~~means for causing~~ cause steps a and b to be repeated so that at least some of the bits transmitted during one of the second subplurality of time periods are output from the second ~~FIFO.~~ data rate buffer.

37. (PREVIOUSLY PRESENTED) An apparatus as recited in claim 36, wherein the output bit stream is provided by time division multiplexing of at least the first data stream and second data stream.

38. (CURRENTLY AMENDED) An apparatus as recited in Claim 36, wherein all bits transmitted during any of the second subplurality of time periods are output from the second ~~FIFO.~~ data rate buffer.

39. (PREVIOUSLY PRESENTED) An apparatus as recited in Claim 36, wherein the first subplurality of time periods includes every other time period of the sequential plurality of time periods.

B1

40. (CURRENTLY AMENDED) A computer-readable medium for communicating at least first and second digital data streams over a communications link from a source to a destination, the computer-readable medium carrying one or more sequences of one or more instructions which, when executed by one or more processors causes the one or more processors to perform the steps of:

receiving the first data stream, the first data stream being a synchronous data stream having a first average data bit rate;

clocking the first data stream into a first data rate buffer;

receiving the second data stream, the second data stream being an asynchronous data stream having a second average data bit rate;

clocking the second data stream into a second data rate buffer;

wherein the first and second data rate buffers define a next out data bit for outputting in response to a clock-out signal; and

transmitting, over the communication link, an output bit stream, at an output data bit rate,

wherein the output bit stream includes bits output from the first data rate buffer and the output bit stream also includes bits from the second data rate buffer,

wherein the output bit stream includes at least a sequential plurality of time periods for transmitting a data bit during each of the sequential plurality of time periods,

and wherein the transmitting includes

a) outputting the next out data bit from the first data rate buffer and transmitting the next out data bit on the communications link during one of a first subplurality of the sequential plurality of time periods;

b) following step a, transmitting a bit, during one of a second subplurality of the sequential plurality of time periods; and

repeating steps a and b to define a plurality of iterations of step a and step b wherein at least some of the bits transmitted during iterations of step b are output from the second data rate buffer.

41. (PREVIOUSLY PRESENTED) A computer-readable medium as recited in claim 40, further comprising one or more additional instructions which, when executed by the one or more processors, cause the one or more processors to cause the output bit stream to include time division multiplexing of at least the first data stream and the second data stream.

42. (PREVIOUSLY PRESENTED) A computer-readable medium as recited in Claim 40, wherein all bits transmitted during iterations of step b are output from the second data rate buffer.

43. (PREVIOUSLY PRESENTED) A computer-readable medium as recited in Claim 40, wherein the first subplurality of the sequential plurality of time periods comprises every other time period of the sequential plurality of time periods.

44. (NEW) An apparatus for communicating at least first and second digital data streams over a communications link from a source to a destination, the first data stream being a synchronous data stream having a first average data bit rate, the second data stream being an asynchronous data stream having a second average data bit rate, the apparatus comprising:

a first FIFO buffer configured to receive the first data stream;

a second FIFO buffer configured to receive the second data stream;

a transmitter configured to transmit an output bit stream over the communications link at an output data bit rate;

wherein the output bit stream includes bits output from the first data rate buffer and the output bit stream also includes bits from the second data rate buffer, and

wherein each J^{th} bit of a sequential plurality of bits in the first data stream are bits sequentially output from the first FIFO buffer, to define first bits of the output bit stream, and wherein at least one bit of the sequential plurality of bits, other than the first bits, is output from the second FIFO buffer.

45. (NEW) The apparatus as claimed in claim 20, further comprising a time division multiplexer configured to generate the output bit stream by time division multiplexing at least the first data stream and second data stream.

46. (NEW) An apparatus for communicating at least first and second digital data streams over a communications link from a source to a destination, the first data stream being a synchronous data stream having a first average data bit rate, the second data stream being an asynchronous data stream having a second average data bit rate, the apparatus comprising:

a first data rate buffer configured to receive the first data stream;

a second data rate buffer configured to receive the second data stream;

wherein the first and second data rate buffers define a next out data bit for outputting in response to a clock-out signal; and

a transmitter configured to transmit an output bit stream over the communication link at an output data bit rate,

wherein the output bit stream includes bits output from the first data rate buffer and the output bit stream also includes bits from the second data rate buffer,

wherein the output bit stream includes at least a sequential plurality of time periods for transmitting a data bit during each of the sequential plurality of time periods,

and wherein the transmitter is further configured to:

a) output the next out bit from the first data rate buffer and transmitting the next out data bit to the communications link during one of a first subplurality of time periods of the sequential plurality of time periods;

b) following step a, transmit a bit, during one of a second subplurality of time periods of the sequential plurality of time periods;

cause steps a and b to be repeated so that at least some of the bits transmitted during one of the second subplurality of time periods are output from the second data rate buffer.

47. (NEW) The apparatus as recited in claim 46, further comprising a time division multiplexer configured to generate the output bit stream by time division multiplexing at least the first data stream and second data stream.

48. (NEW) The apparatus as recited in Claim 46, wherein all bits transmitted during any of the second subplurality of time periods are output from the second data rate buffer.

49. (NEW) The apparatus as recited in Claim 46, wherein the first subplurality of time periods includes every other time period of the sequential plurality of time periods.